

ABSTRACT OF THE DISCLOSURE

A garbage collector treats a garbage-collected heap as divided into heap regions, for each of which it maintains a respective remembered set, whose entries list the locations where references located in the heap outside that region refer to references inside that region. The remembered sets are used during space-incremental collection operations on collection sets of those regions; if the garbage collector determines that objects in the collection set are not referred to directly or indirectly from outside the collection set, it reclaims the memory space that they occupy. It places entries into the remembered sets independently of the locations at which the references were found, so any region can be chosen for inclusion in any collection set; no predetermined collection order is required. Instead, the garbage collector performs global marking operations and uses the results to select for collection-set membership the regions that it can most likely collect efficiently.